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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/986,635   | 11/09/2001  | Nathaniel Ian Joos   | 9351-15 HSF         | 5607             |
| 1059   | 7590        | 09/29/2003           |                     |                  |
| BERESKIN AND PARR<br>SCOTIA PLAZA<br>40 KING STREET WEST-SUITE 4000 BOX 401<br>TORONTO, ON M5H 3Y2<br>CANADA |             |                      | EXAMINER            |                  |
|  |             |                      | CHANAY, CAROL DIANE |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 1745                |                  |

DATE MAILED: 09/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 09/986,635             | JOOS ET AL.         |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Carol Chaney           | 1745                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 09 November 2001.

2a) This action is FINAL.                  2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-28 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-28 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

|   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                               | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                      | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ .                                   |

***Drawings***

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "60" has been used to designate each of the following:

- 1) a through hole, as shown in the upper right of Figure 2a,
- 2) a hole with an outwardly facing connector shown in Figure 2b, and
- 3) a flat plate, as shown in the upper left of Figure 2b.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Figure 2c is not found. Page 15, paragraph 48 of applicants' specification discusses Fig. 2c and the features disclosed as being illustrated in Figure 2c appear critical to applicants' invention. Applicants' statement submitted with the voluntary amendment filed 11 November 2002 stating "...there is, in fact, no Figure 2a..." is interpreted as intending "...there is, in fact, no Figure 2c..." because a Figure 2a was provided with the specification.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the

description: Reference numeral 14, described in paragraph 50 as a "separator plate" is not shown.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-16, 19 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The terms "gas bypass conduit" and "gas bypass port" are indefinite because they are not defined and clearly illustrated in applicants' specification, and are not considered a term or art which would be clearly understood by those of skill in the fuel cell art.

In claims 8 and 19, the terms "anode bipolar plate" and "cathode bipolar plate" are not indefinite because "bipolar" refers to plates simultaneously in contact with both anode and cathode.

Claim 8 recites the limitation "said anode bipolar plates" and "said cathode bipolar plates" in lines 4-6. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

To the extent to which they are understood, claims 1-9 and 17-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Levy et al., US Patent 4,839,247.

Levy et al. disclose a regenerative fuel cell system which contains interleaved fuel cells and electrolysis cells. The cells are the same size, and are placed back to back. (Column 5, lines 8-12.) Oxygen is delivered to the fuel cells and ducted from the electrolysis cells by means of oxygen manifolds 32 and 34. (See Figure 3 and column 3 lines 41-50.) At the center of the interleaved fuel cell/electrolyzer stacks is a hydrogen plenum (22) which provides hydrogen to the fuel cells and ducts hydrogen from the electrolysis cells. As shown in Figure 2, the electrolyzer cathode and anode inlets and outlets are connected to the fuel cell oxidant and fuel ports. A electrolyzer/fuel cell unit includes endplates (55) and (73) and insulating plates (17) and (75). Water and coolant

Art Unit: 1745

transfer is provided through plate 44. (See Fig. 4 and column 4, lines 13-16 and 32-36; column 5, lines 3-7 and 37-46.)

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wang, US Patent 6,503,648 discloses a combined electrolysis cell and fuel cell.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol Chaney whose telephone number is (703) 305-3777. The examiner can normally be reached on Mon - Fri 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 703-308-2383. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Carol Chaney  
Primary Examiner  
Art Unit 1745

cc